QuickPHOTO INDUSTRIAL 3.1

System for Digital Photomicrography, Image Editing and Measurements Designed for Technical Applications

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QuickPHOTO INDUSTRIAL 3.1 program is designed for acquiring of digital images from microscopes equipped with digital cameras, editing, annotating and saving of acquired images and measurements. This program is designed for use especially in industry and materials science applications.

QuickPHOTO INDUSTRIAL 3.1 program is equipped with many measuring functions: measuring of lengths, perimeters, diameters, areas, angles, distances of parallel lines, counting of objects, phase analysis, evaluation of hardness and microhardness tests. The program is also equipped with advanced exporting and reporting functions.

Main Features Overview:

- **Image acquisition from a wide range of imaging devices** (microscopic digital cameras, DSLR cameras, analog cameras, scanners)
- **Live view on a computer screen**
- **Measurements in acquired images**: insertion of a calibrated scale bar, measuring of dimensions (lengths), perimeters, diameters, areas, angles, distances of parallel lines, objects counting, advanced phase analysis, evaluation of hardness and microhardness tests, overlay orthogonal and circular grid display
- **Measurements in a live view***: calibrated scale bar, dimensions (lengths), perimeters, diameters, areas, angles, distances of parallel lines, counting of objects, overlay orthogonal and circular grid display
- **Measured values are displayed in a well-arranged table with basic statistics.** Particular measurements can be annotated. Measured values can be exported (optionally with the image with measuring objects) to a Microsoft® Excel® file or a text file.
- **Measured values can be continuously exported to an open Microsoft® Excel® workbook**
- **Advanced functions for saving of multiple images at once**
- **Option to automatically save acquired images to a predefined folder**
- **Microsoft® Word reports**
- Support for zooming units, magnification changer units and magnification encoders (devices for automatic determination of currently used microscope magnification)
- **Image editing functions, indication and annotation of interesting areas of the image, image descriptions**
- **Advanced printing functions** including interactive preview
- **Automatic time-lapse image capturing** with the options to control computer controlled illuminators and time-lapse HD video creation
- Option to acquire images using a remote trigger (optional accessory)
- **Calibrations can be locked with a password protection; the calibrations are protected by a digital signature against unauthorized modifications**
- Support for work on two-monitor workstations
- **Multilingual user friendly graphical interface**
- Possibility to extend functions with additional modules (Deep Focus, RECORD IT, FLUO+)
  *These features are available only for some of the supported imaging devices.

Measuring Functions (in acquired images):

- **Insertion of a calibrated scale bar** (options to define type, size and colors; vertical or horizontal position)
- **Measuring of dimensions** (line segment and polyline tools)
- **Measuring of areas, perimeters and diameters** (ellipse, rectangle, polygon, circle defined by radius, by diameter or by three points tools)
- **Measuring of angles** (arbitrary angle, angle from the X axis, angle from the Y axis, angle defined by two line segments with a vertex possibly outside of the image)
- **Radius, angle and length measurement of an arc**
- **Measuring of a distance between two parallel lines**
- **Counting of objects**
- **Phase analysis with an option to define areas of measuring** (ROI)
- **Evaluation of Brinell hardness test** (according to the EN ISO 6505-1:1999 standard) and a **Vickers microhardness test** (according to the EN ISO 4516:2002 standard)
- **Display of a calibrated overlay grid** (orthogonal, circular)
- Options to define measurands and their labeling for individual measuring tools
- Measured values can be exported (optionally with the image with measuring objects) to a Microsoft® Excel® file or a text file.
- Measured values can be also continuously exported to an opened Microsoft® Excel® workbook
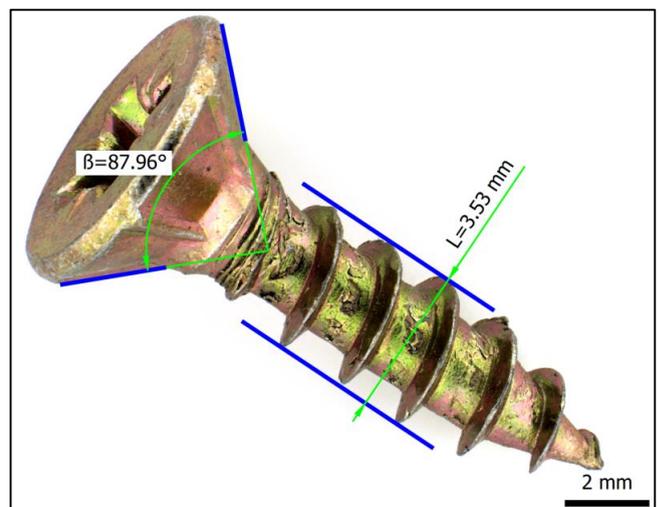
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Measurements in a Live View*:

- Measurements directly in a live view (no need to acquire an image to perform measurements)
- **Insertion of a calibrated scale bar** (options to define type, size and colors; vertical or horizontal position)
- **Measuring of dimensions** (line segment and polyline tools)
- **Measuring of areas, perimeters and diameters** (ellipse, rectangle, polygon, circle defined by radius, by diameter or by three points tools)
- **Measuring of angles** (arbitrary angle, angle from the X axis, angle from the Y axis, angle defined by two line segments with a vertex possibly outside of the image)
- **Radius, angle and length measurement of an arc**
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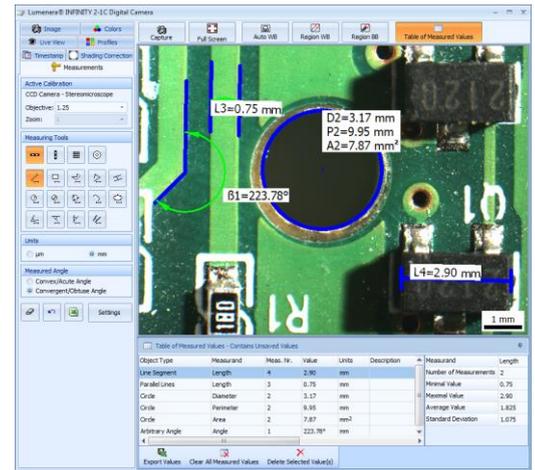
Evaluation of Hardness and Microhardness Tests

QuickPHOTO INDUSTRIAL 3.1 program can also be used in conjunction with hardness testers. The program includes features for evaluation of Brinell hardness test and Vickers microhardness test.

Phase Analysis with an Option of Defining the Areas of Measurement

The *Phase Analysis* feature is designed especially for material science applications. This feature enables measuring of percentage amount of a particular phase (color/shade of grey) in the image. There can be defined the areas of measurement in the image (ROI). Up to four phases can be measured in one image. It is possible to select various colors of displayed phases, add another color/shade of grey to the current phase, invert the phase, set tolerance and overlays. As a result the percentage amount of each phase in the image is calculated.
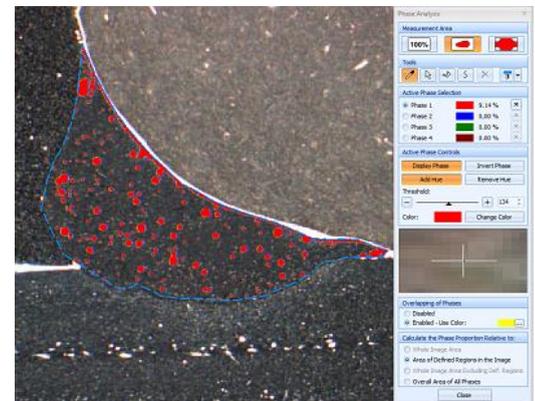
Image Editing Functions

The images are immediately after acquisition transferred to a computer and prepared for processing. QuickPHOTO INDUSTRIAL 3.1 program enables work with multiple images at the same time. For comparison two or four images can be displayed side by side. The *Thumbnail Browser* enables easy switching to another opened image by a single mouse click. The *Navigator* window facilitates work with magnified images.

The images can be edited using the following functions:

- **Crop** (crop size can be defined in pixels, μm or mm)
- **Rotation** (by 90° clockwise and counter clockwise)
- **Flip and mirror**
- **Resize**
- **Brightness and contrast adjustment**
- **Color balance adjustment**
- **Histogram adjustment**
- **Filters** (sharpen, blur, negative, grey scale, median filter)
- **White balance and black balance**
- **Indication of interesting areas** (line, arrow, ellipse, rectangle, circle and freehand drawing tools)
- **Insertion of text annotations**
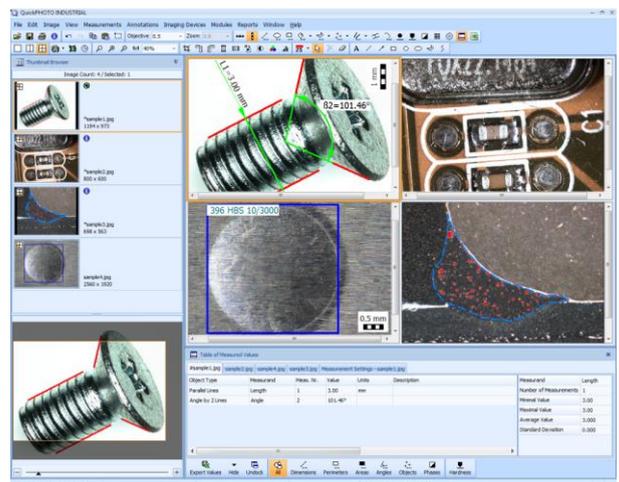
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The Advantage of Working with Layers

All inserted objects (drawings, annotations, measurements) are displayed in a separate layer "above the image". It is possible to modify (change of the line's color and thickness, change of size, change of position), delete, or hide them at any time. It is also possible to delete the whole layer with inserted objects or merge it with the image.

Microsoft® Word Reports

Images with measured values can be easily exported into reports in Microsoft® Word format. The user can create custom report templates with various layouts and number of images. Templates can be created in Microsoft® Word program using standard formatting functions.

Control Panels of Imaging Devices

Each of the supported imaging devices can be controlled by a dedicated control panel. The control panel contains a live view from the imaging device and elements for control of its functions and properties.

Imaging Devices Controlled via TWAIN Interface

The imaging devices, which do not have their own control panel in QuickPHOTO INDUSTRIAL 3.1 program, can be controlled via TWAIN interface. Those devices can also be used in conjunction with built-in *Timer* module as well as with *Deep Focus* z-stacking additional module.

Image Acquisition from Analog Video Sources

The QuickPHOTO INDUSTRIAL 3.1 program is equipped also with a control panel for image acquisition from analog video sources (analog cameras, DVD players and other analog devices).

Two-Monitor Workstations Support

Two-monitor workstations are supported by QuickPHOTO INDUSTRIAL 3.0 program. The main program window can be displayed on a primary monitor, while the control panel of a digital imaging device with a live view from a microscope can be displayed on a secondary monitor.

Remote Trigger

A remote trigger is an optional accessory which makes image acquisition even more comfortable. The images can be acquired by pressing a trigger button.

Minimal System Requirements:

Processor	Operating Memory	USB Ports	Operating System	Minimal Monitor Resolution
Single-core 2.4 GHz or multi-core	1 GB	2x USB 2.0/3.0	Microsoft® Windows® XP(SP3)/Vista/7/8/10	1024 x 768 pixels

Supported Imaging Devices:

Complete list of currently supported devices can be found on the website: *www.promicra.com*.

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